

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS

261.0
General
San Juan Cr.

PRELIMINARY INVESTIGATION PURSUANT TO
PETITION FOR ADJUDICATION
SAN JUAN CREEK WATERSHED IN
SAN BENITO COUNTY

JULY 1, 1981

INTRODUCTION

On October 29, 1980 the State Water Resources Control Board (Board) received a petition signed by 19 individuals requesting adjudication of water rights in the San Juan Creek watershed (see Attachment 1). San Juan Creek is located near the City of San Juan Bautista in San Benito County (see Map 1).

Section 2525 of the Water Code states:

"2525. Upon petition signed by one or more claimants to water of any stream system, requesting the determination of the rights of the various claimants to the water of that stream system, the board shall, if, upon investigation, it finds the facts and conditions are such that the public interest and necessity will be served by a determination of the water rights involved, enter an order granting the petition and make proper arrangements to proceed with the determination.

Pursuant to the petition, the Board's staff conducted an investigation to determine if the facts and conditions in the watershed were such that the public interest and necessity would be served by the Board's approval of the petition. This report summarizes the results of the staff investigation. The staff has found that the public interest and necessity would not be served, therefore it is recommended that the Board deny the petition.

SCOPE OF INVESTIGATION

The preliminary investigation was conducted by Bruce Wormald and James Haupt, staff engineers of the State Water Resources Control Board. Names and addresses of property owners in the watershed area were obtained from San Benito County Assessor's records. Property owners were notified by mail of the preliminary investigation (Attachment 2). Seven letters were received from property owners in the area. The San Benito County Planning Director and the head of the County Health Department were interviewed. The investigation revealed that the concerns expressed by petitioners were limited to that portion of the watershed south of State Highway 156 and west of the San Andreas fault zone. Accordingly, the investigation was confined to that area.

Aerial photos taken in 1979 showing recent land use were obtained from the Soil Conservation Service. Streamflow observations were made and available hydrologic data was reviewed to assess the available water supply in the stream system. Nine water samples were collected to determine water quality characteristics.

A letter signed by a local consulting engineer accompanied the petition. The letter stated that the groundwater constituted the underflow of San Juan Creek. (Attachment 3). In response to this letter, staff investigated the geologic and hydrologic conditions to determine if the groundwater constituted underflow.

DESCRIPTION OF STREAM SYSTEM

San Juan Creek is located in the northwest corner of San Benito County (Map 1). It drains off the east side of the Gabilan Range, one of the many ranges comprising the Central Coast Ranges. The watershed originates on the north slope of Fremont Peak, drains northward down Peak Canyon and then flows northwest through San Juan Canyon.

The stream enters San Juan Valley (a sub-basin of San Benito groundwater basin) just south of the City of San Juan Bautista and meanders in a northwesterly direction to its confluence with the Pajaro River a mile west of the San Benito River. South of the town of San Juan Bautista, San Juan Creek lies west of the San Andreas fault zone. San Juan Creek and another unnamed tributary discharge into a small alluvial basin located on the west side of the San Andreas fault. This basin is considered a sub-unit of the San Juan Valley sub-basin. Its southern limit is assumed to be the north section line of Section 10, T13S, R3E, MDB&M. East of the San Andreas fault, San Juan Creek waters, when present, are commingled with irrigation return water. There is little or no natural flow in San Juan Creek between the City of San Juan Bautista and the confluence of San Juan Creek and the Pajaro River.

The upper reach of San Juan Creek is an ephemeral stream. The only time surface water flows in the creek is immediately following intense rain storms. Several of the canyon residents interviewed indicated that they had seen water in San Juan Creek on only one or two occasions in the winter months. One long-term resident stated that after a severe fire in the 1940s destroyed a considerable portion of the riparian vegetation of the watershed, the stream did support surface flow throughout the winter during two or three years. In several places along San Juan Canyon surface expression of the streambed is virtually eliminated. In the lower reach in San Juan Canyon discontinuous perennial flow occurs.

GEOLOGY

The reach of San Juan Creek located within San Juan and Peak Canyons drains an area of eleven square miles. Approximately seven square miles, or 65 percent of the drainage area, is underlain by a granitic intrusive containing occasional roof pendants of marbleized limestone and other associated metamorphics. The remainder of the watershed is underlain by lower Tertiary sedimentary and volcanic rocks. The granite is in fault contact with these lower Tertiary rocks. This fault, the Vergeles fault, transects San Juan Canyon at approximately its mid-point. The San Andreas fault zone is located approximately one mile east of San Juan Canyon. Its strike is northeast and parallels San Juan Canyon. The Vergeles fault and San Andreas fault zones have caused a series of complex cross-faults in the lower Tertiary sediments that are exposed in the northern half of San Juan Canyon. The faults have a significant impact on the flow regimen of San Juan Creek. Map 2 shows the fault lines and geologic formations.

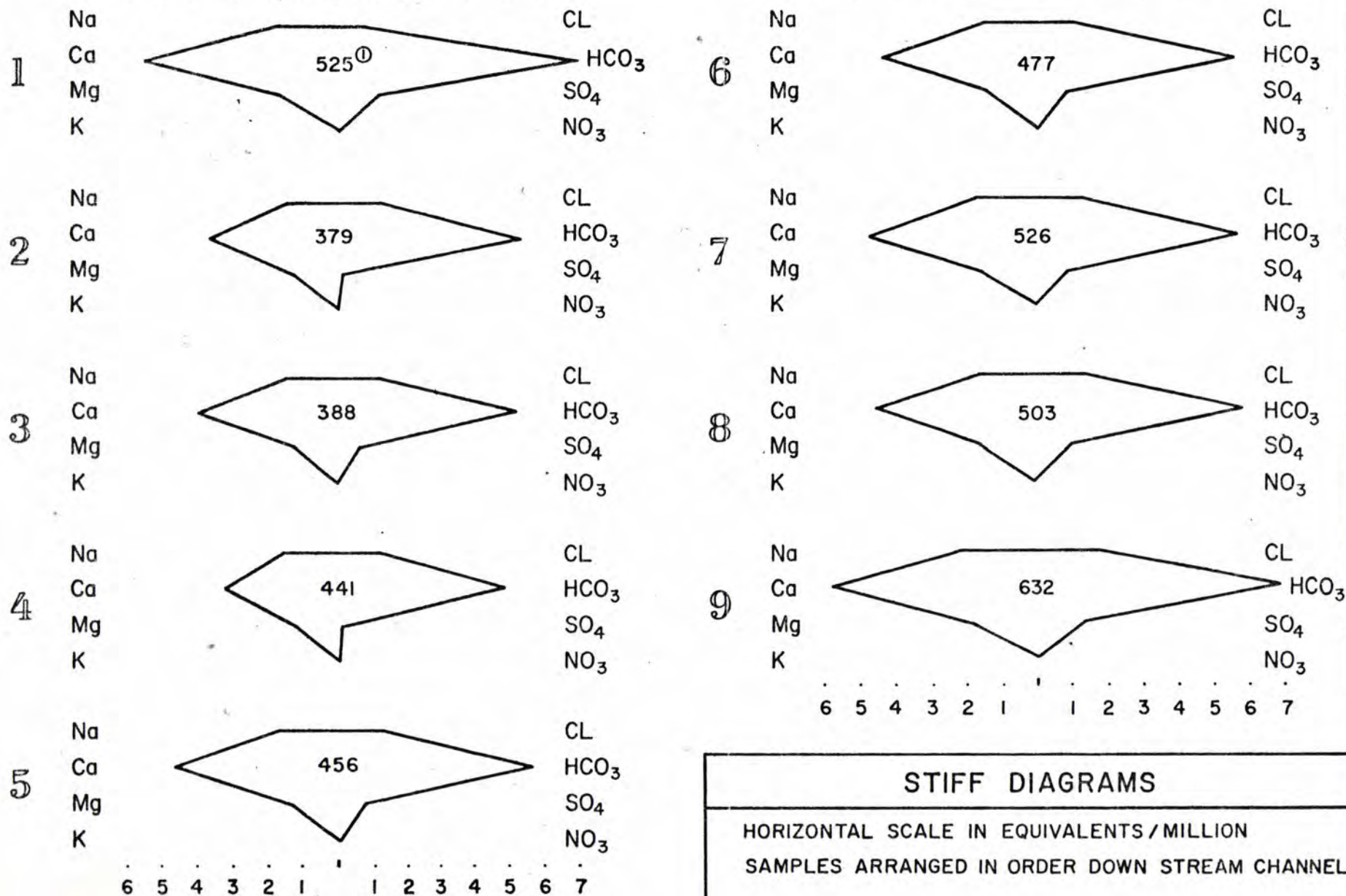
The soil mantle developed on that portion of the watershed underlain by the Gabilan granite is classified as Sheridan Coarse Sandy Loam by the Soil Conservation Service. The series consist of well-drained to excessively-drained, loamy soils that are underlain by weathered granite. The depth of the underlying

rock ranges from 18 to 55 inches. Permeabilities are reported to range from 2.5 to 5 inches per hour. Water holding capacity ranges from 0.10 to 0.12 inch per inch of soil. The underlying granite is deeply weathered; the weathered zone can range from 30 to 100 feet. Well logs indicate the base of the weathered granite zone averages 50-60 feet in depth along the canyon floor. Sandy alluvial material derived from the decomposed granite of the surrounding hillsides has filled the floors of tributary canyons and forms most of the floor of San Juan Canyon. There are some Hanford series soils suitable for agricultural purposes.

There is little or no visible runoff following precipitation because of the highly permeable soils developed on the granite and sandy alluvium. Precipitation infiltrates directly into the subsoil and the weathered granitic zone and then migrates laterally along established gradients until reaching an impermeable barrier. The morphology of this subsurface barrier is reflected in the overlying topography.

WATER SAMPLES

Nine water samples were collected. Eight of the samples were from wells and one was a surface water sample. Standard mineral analyses were made from the samples to determine quality and character of the water. Stiff diagrams were prepared (Figure 1). Stiff diagrams are a method of illustrating the chemical character of a water by plotting the equivalents per million of major ions on parallel horizontal scales. The points are connected and the shape of the resulting diagram depicts the character of water for a sample. Stiff diagrams of the water samples with similar shape indicate similar character of water even though there may be variations in the total dissolved solids (TDS) of the sample



STIFF DIAGRAMS

HORIZONTAL SCALE IN EQUIVALENTS/MILLION
 SAMPLES ARRANGED IN ORDER DOWN STREAM CHANNEL

① TOTAL MILLIGRAMS/LITER OF DISSOLVED SOLIDS

FIGURE 1

population. Figure 1 shows that the common characteristic of the water samples collected in San Juan Canyon is calcium carbonate. With the exception of the initial surface sample, there is a gradual increase in TDS down gradient. There is also a gradual increase in nitrates at the lower end of the canyon; however, the concentrations are well within drinking water standards. The results of samples with nitrates are tabulated below.

Table 1

<u>Sample No.</u>	<u>NO₃ Mg/l</u>
6	0.1
7	1.4
8	1.2
9	3.4

The similarity in the character of the nine water samples collected indicates that water is from the same source which constitutes the underflow of San Juan Creek.

STREAM FLOW REGIMEN

Most of the wells observed in San Juan Canyon are located close to the trace of San Juan Creek. Interviews with two well drillers confirmed that the only available water is in the valley floor. An examination of the logs of wells drilled in the granite indicates that wells are drilled through the alluvium and weathered granite to the unweathered zone in order to intercept water.

It appears that water intercepted by wells in alluvium of the valley floor is the underflow of San Juan Creek. This conclusion is based on the high permeability of the soils developed on the underlying bedrock, the deep weathered zone of the bedrock and the permeable nature of sandy alluvium accumulated in the valleys.

This is further supported by two observations in the canyon. At one point where the canyon necks down, there was evidence of moist ground and marsh-type plants indicating that the subterranean flow was being forced close to the surface. An area of springs and seeps is located at the head of San Juan Canyon. The flow from this spring area infiltrates into the alluvium of the canyon floor within one-quarter mile. The flow resurfaces briefly a mile downstream only to disappear again after a short distance.

This flow regimen is changed by the Vergeles fault which transects the watershed. The less permeable Tertiary rocks are in fault contact with the granite and water is forced to the surface through a series of springs and seeps. The water from these springs and seeps accumulates in the streambed until perennial flow is developed. At a point approximately one mile upstream from the mouth of the canyon, flow was estimated to be one cfs on January 17, 1981. This perennial flow continues northward until the creek again infiltrates into the ground at the mouth of the canyon. At this point San Juan Creek is joined by a small tributary from the west. However, no flow was apparent on the day of inspection. The waters of this tributary and San Juan Creek percolate into the small groundwater basin located on the west side of the San Andreas fault zone. North of the Vergeles fault the watershed of San Juan Creek is underlain by consolidated bedrock consisting of sedimentary and igneous rocks of the lower Tertiary age. It must be concluded that, except for the shallow alluvial strata overlaying the existing bedrock, water pumped from wells located either at the mouth of the canyon or pumped from deep wells located north of the Vergeles fault is percolating groundwater.

The influence of the San Andreas fault zone on the flow of groundwater through the alluvium in this area was not investigated. It is known that there is

considerable difference in water quality between wells located in this small subunit west of the San Andreas fault zone and wells located in the San Juan sub-basin east of the fault zone. This indicates that the San Andreas fault zone may act as a groundwater barrier at this point.

HYDROLOGIC DATA

No hydrologic data is available for San Juan Creek. A recording gage could be installed near the mouth of the Canyon. Because of the modulating effect of subterranean upstream flow, the data would not be representative of the annual runoff pattern. Estimates could be made from regional runoff and evapotranspiration information.

WATER USE

With a few exceptions, the primary use of surface and subsurface water within San Juan Creek drainage is for domestic purposes. Currently, there is limited agricultural use of the waters of San Juan Creek by a small stock operation raising Scottish Hereford cattle (Map 1). The owner, ^(Isaacson) has constructed two ponds, one for stockwatering and one for recreational and esthetic purposes. He irrigates 15 acres of pasture from ^{the creek.} ~~a deep well~~. Some old orchards are located in the canyon but they are no longer operated commercially. One property owner, ^(Isaacson) irrigates two acres of walnuts, ^{from a well}. A rancher, ^(Holtzworth) with extensive acreage along the east side of the drainage is dependent upon the perennial flow in the lower reach of San Juan Creek for stockwatering during summer months.

Residents have stated that during drought periods they have had to limit their lawn and garden watering. However, no one seems to have suffered any shortage

of water for inside domestic use. All of the canyon residents are dependent on wells for their source of water. Individual construction of wells could have an influence on the amount of water available to any particular party and may not be necessarily due to inadequate water available in San Juan Canyon. The perennial nature of the springs north of the Vergeles fault support the contention that there is still underflow in San Juan Creek south of the fault available for use by riparian owners or by appropriation.

It was reported that prior to the turn of the century the City of San Juan Bautista obtained its water from a tributary canyon in this area. However, after an earthquake, this particular supply dried up. Later, the city collected its water supply from the springs associated with the Vergeles fault. The city still owns an acre of land in the area on which an underground gallery was constructed in the spring area to collect water. The water was piped down the canyon from the gallery to the city several miles to the north. The city has more recently constructed two wells in San Juan Valley sub-basin from which it obtains its present water supply.

THE ISSUES

The area is currently undergoing subdivision and development. It is within 30 miles of the developing commercial centers of Watsonville, Salinas and Santa Cruz. As occupancy of the canyon increases, increased demands will be placed on San Juan Creek not only as a source of water but also for its waste assimilative capacity. The majority of petitioners expressed opposition to this suburban development.

The county has currently designated the area for residential development with five-acre zoning. However, because of the steep terrain within the watershed,

the county is permitting cluster housing (i.e., houses clustered on one-acre lots with the remaining four acres designated as open space). Most of the one-acre building parcels are located on the canyon floor. A recently approved 85-acre subdivision serves as an example. On this subdivision 17 sites were permitted. Nine sites are located on the canyon floor and four are immediately adjacent to the canyon floor.

No commercial water or municipal sewage service is available in the canyon. New housing development is required to obtain water from wells and discharge sewerage water through septic systems. There is some concern on the part of residents that their water supply may be degraded if this pattern of development continues.

All diversions are made from wells with the exception of one stockpond and a recent application for appropriation of surface water^{A-267256 by Isaacson}. Several factors influence the amount of water that can be extracted from a well -- size, depth, type of perforation, type of pump, variation in the transmissibility of the aquifer within the zone of influence for a particular well -- all affect the well performance. These factors may have a more significant impact on water availability during a drought cycle than water supply in the stream system. Water use from wells can be estimated or well owners can be required to install flow meters. Currently, there does not appear to be a shortage of water for present users within San Juan Canyon. Continuing housing development relying on the stream system may alter this picture. Adjudication would establish the basis for allocation of these future shortages. However, it would not resolve the quality problems that may arise because of waste discharge as development continues. Water quality issues should more appropriately

be handled at the local level by the County Planning Department and/or the County Health Department or by the Regional Water Quality Control Board.

WATER RIGHTS

Determination that wells within San Juan Canyon are extracting underflow from San Juan Creek would mean that the basis of most uses within the Canyon are made under apparent riparian right. Use of water from wells which is diverted out of the watershed or to severed parcels could be made only under appropriative rights. There is at least one such use, ^{who?}

The City of San Juan Bautista claims an appropriative right which was initiated prior to 1872. However, this right may have been forfeited through nonuse in recent years. The City, not a petitioner in this matter, is maintaining an interested party status. In the event of a determination of water rights, the City may claim priority based on possible Pueblo rights. The California Supreme Court has recently upheld Pueblo Rights principally because of the pueblo's successor's reliance on the right in planning and developing a municipal water supply. However, the court has expressed reluctance about finding such rights under other circumstances (City of Los Angeles vs. City of San Fernando, 14C 3rd 199, p. 252).

The validity of the City's claim of pueblo rights will have to be determined if an adjudication takes place.

CONCLUSIONS

1. The major problem associated with future development of San Juan Canyon appears to be related to orderly control of land use and not directly to use of water. Control of future subdivision of land in the San Juan Creek watershed is not sufficient justification for the Board to find that

the public interest and necessity would be served by adjudicating the water rights. However, the uncertainty of the future water supply of these subdivisions and the effect of the current subdivision on depletion of San Juan Creek is reason for concern. Currently, water is still available for beneficial use on riparian lands or by appropriation. Future allocation of the undeveloped water could be controlled by the judicious issuance of subdivision and building permits.

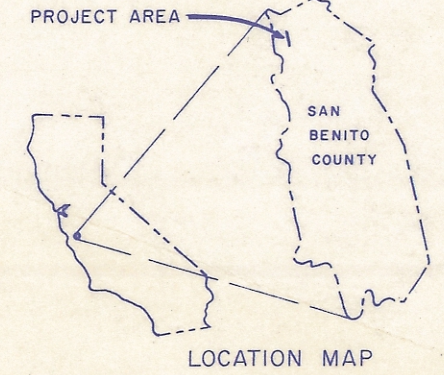
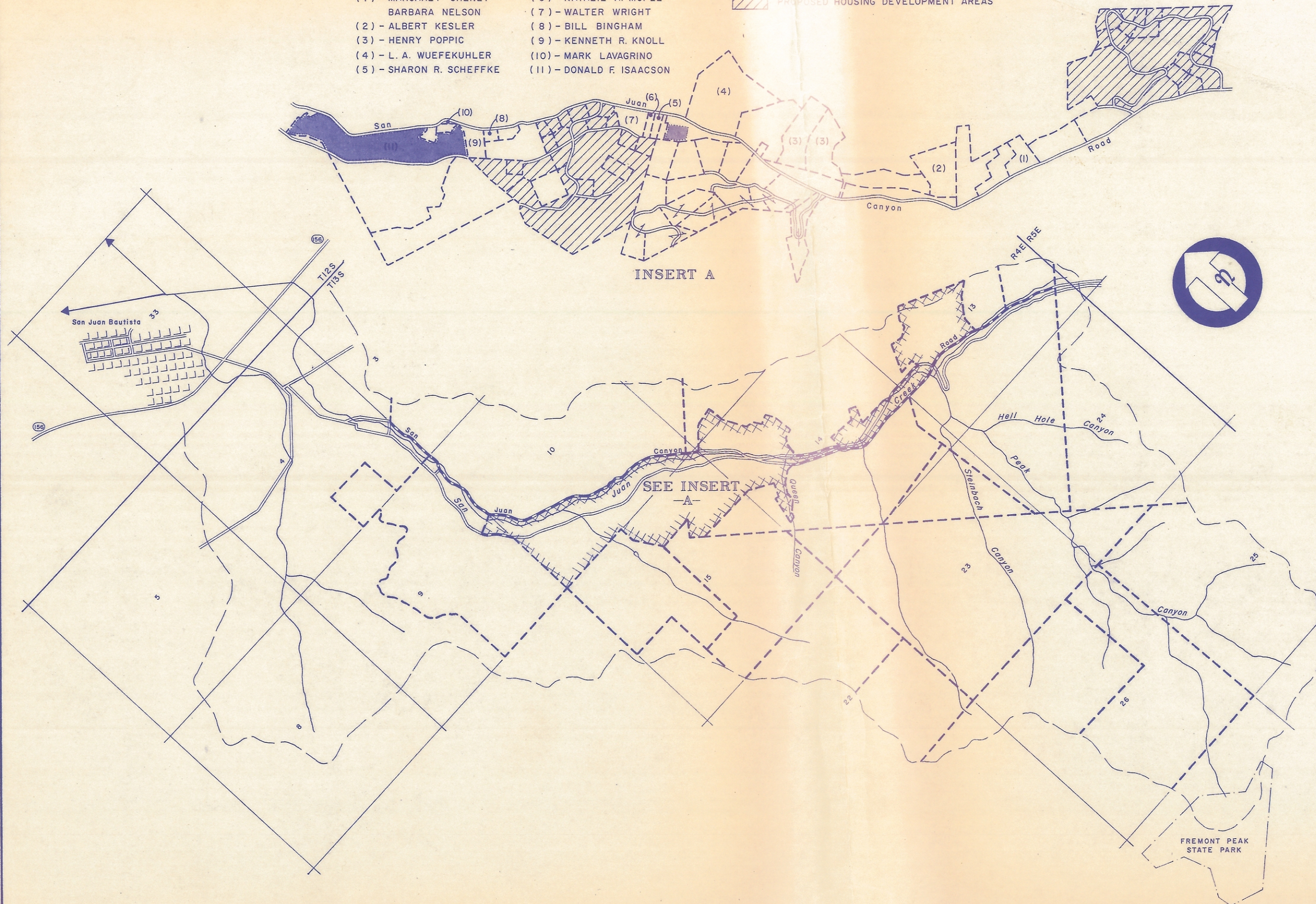
2. The staff geological investigation supports the contention that subsurface waters within San Juan Canyon are the underflow of San Juan Creek. There is no stream surface flow through most of the length of the stream within San Juan Canyon.
3. With the exception of the smaller amount of irrigation, ^{where?} most of the use is domestic under apparent riparian rights. Therefore all riparian users would be required to share any shortage on a correlative basis.
4. A statutory adjudication will not solve the water quality problems that may occur as development in the canyon progresses.
5. The facts and conditions in the San Juan Creek watershed are such that the public interest and necessity will not be served by a determination of the water rights.
6. Denial of this petition without prejudice does not prohibit the petitioners from filing a future petition when conditions become such that the public interest and necessity would be served by approval of any such petition.

RECOMMENDATION








Staff recommends that the Board deny without prejudice the petition for an adjudication of the water rights in the San Juan Creek watershed.

PROPERTY OWNERS WHO SIGNED PETITION

(1) - MARGARET CHENEY
BARBARA NELSON
(2) - ALBERT KESLER
(3) - HENRY POPPIC
(4) - L. A. WUEFEKUEHLER
(5) - SHARON R. SCHEFFKE
(6) - NATALIE A. MCFEE
(7) - WALTER WRIGHT
(8) - BILL BINGHAM
(9) - KENNETH R. KNOLL
(10) - MARK LAVAGRINO
(11) - DONALD F. ISAACSON

 PROPOSED HOUSING DEVELOPMENT AREAS

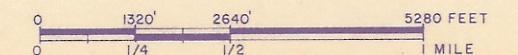
LEGEND

-  - PROPERTY BOUNDARY
-  - TOWNSHIP LINE
-  - SECTION LINE
-  - CREEK
-  - ROAD
-  - WATERSHED BOUNDARY
-  - IRRIGATED LAND

State of California
THE RESOURCES AGENCY
STATE WATER RESOURCES CONTROL BOARD

SAN JUAN CANYON CREEK STREAM SYSTEM

— SHOWING —
PROPERTY BOUNDARIES
and IRRIGATED LANDS
SAN BENITO COUNTY





LEGEND

- (1) - SAMPLE POINT
- CREEK
- ROAD
- - WELL
- - SPRING
- - - WATERSHED BOUNDARY
- - - FAULT
- KNOWN
- - - APPROXIMATE
- - ALLUVIUM
- ▨ - TERTIARY CONSOLIDATED BEDROCK
- ▩ - GRANITE

NOTE: GEOLOGY AFTER ALLEN (1946), TALIAFERRO (1946) and ROGERS (1968)

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**SAN JUAN CANYON
CREEK STREAM SYSTEM**
— SHOWING —
GEOLOGICAL FORMATION
SAN BENITO COUNTY

